



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,186	03/24/2004	Masaki Kinoshita	250838US-2CONT	2532
22850	7590	10/03/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				KIM, RICHARD H
ART UNIT		PAPER NUMBER		
		2871		

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/807,186	KINOSHITA ET AL.	
	Examiner Richard H. Kim	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 July 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 9-19 and 21-46 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8 and 20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoi et al. (US 6,262,787 B1) in view of Hanata et al. (US 6,812,974 B1).

Referring to claim 1, Kamoi et al. discloses a display apparatus having an optical material between a pair of substrates, and having a plurality of display pixel sections (Fig. 1, ref. 13), wherein each of the substrates as a film that is attached to an outer surface of the substrate (Fig. 2, ref. 3) and has a thickness greater than a thickness of the glass substrate (col. 3, line 56), at least one of the films is formed of a polarizer plate (Fig. 1, ref. 13). However, the reference does not disclose that the substrates has a glass substrate and permits bending of the display apparatus.

Hanata et al. discloses a device wherein the substrates have a glass substrate and permits bending of the display apparatus (col. 5, lines 12-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a glass substrate and permits bending of the display apparatus since one would be motivated to prevent the formation of a distortion pattern in the liquid crystal device (abstract).

Referring to claim 2, Kamoi et al. and Hanata et al. disclose the device previously recited, but fails to disclose that the thickness of the glass substrate is .15 mm or less.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the thickness of each of the glass substrate to be .15 mm or less since the thickness of a substrate is a result effective variable based on the flexibility. Hanata et al. discloses that the glass substrate is “ thin” (col. 5, line 15), implying that it is desirable that the glass substrate to be sufficiently thin to enable flexibility.

Referring to claim 3, Kamoi et al. and Hanata et al. disclose the device previously recited, but fails to disclose that the display apparatus is bendable with a radius of curvature of 200 mm or less.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the radius of curvature to be 200 mm or less since one would be motivated for the radius of curvature to be such to sufficiently small in order to enable sufficient flexibility.

Referring to claim 4, Kamoi et al. discloses the device wherein the optical material is a liquid crystal composition (Fig. 1, ref. 13).

Referring to claim 5, Kamoi et al. and Hanata et al. disclose the device previously recited, but fails to disclose that the optical material is an EL material.

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the optical material to be an EL material since Applicant has disclosed that the optical material can have multiple embodiments. Therefore, the material in which the optical material is comprised of is not an essential feature of the invention.

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoi et al. and Hanata et al. in view of Ando et al. (US 6,356,330 B1).

Referring to claim 6, Kamoi et al. and Hanata et al. disclose the device previously recited, but fails to disclose that the device includes spacers disposed between the pair of substrates, the spacer being fixed on at least one of the substrates.

Ando et al. discloses a device comprising spacers disposed between the pair of substrates, the spacer being fixed on at least one of the substrates (Fig. 3, ref. 301).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ spacers disposed between the pair of substrates, the spacer being fixed on at least one of the substrates since one would be motivated to improve the cell gap (col. 5, line 34).

Referring to claim 7, Kamoi et al. and Hanata et al. disclose the device previously recited, but fails to disclose that each of the display pixel section includes a TFT and a pixel electrode, which are formed on one of the glass substrates.

Ando et al. discloses the device wherein each of the display pixel section includes a TFT and a pixel electrode, which are formed on one of the glass substrates (Fig. 3, ref. 106, and 216).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a TFT and a pixel electrode, which are formed on one of the glass substrates since one would be motivated to control the liquid crystal element, creating a display.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoi et al, Hanata et al., Ando et al., in view of Yamauchi et al. (US 6,512,504 B1).

Kamoi et al., Hanata et al. and Ando et al. disclose the device previously recited, but fails to disclose that the TFT includes a p-Si film.

Yamauchi et al. discloses a device wherein the TFT includes a p-Si film (col. 1, lines 17-27).

It would have been obvious to one having ordinary skill in the art at the time the invention was made for the TFT to include a p-Si film since one would be motivated to operate at high speeds since they have high field effect mobility (col. 1, lines 17-27).

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiraishi et al. (US 6,335,771 B1) in view of Kamoi et al.

Hiraishi et al. discloses a device comprising a display panel configured to hold a liquid crystal layer between an array substrate and a counter substrate (Fig. 1, ref. 1a, 1b, 16); and a backlight unit that illuminates the display panel (col. 3, line 10), wherein the array substrate includes: a first light-transmissive insulation substrate (Fig. 1, ref. 1a); a signal line and a scan line that are disposed to be substantially perpendicular to each other on one of the major surfaces of the first light-transmissive insulation substrates (Fig. 2, ref. 2, 3); a switch element disposed near an intersection of the signal line and the scan line (Fig. 2, ref. 5); and a pixel electrode connected to the switch element (Fig. 1, ref. 14), the counter electrode includes a second light-transmissive insulation substrate (Fig. 1, ref. 1b); and a counter electrode disposed on one of the major surfaces of the second light-transmissive insulation substrate so as to face the pixel

electrdoe (Fig. 1, ref. 16). However, the reference does not disclose polarizer plates disposed respectively on the other major surfaces of the first light-transmissive insulation substrate, the polarizer plates having thicknesses greater than those of the first light-transmissive insulation substrate and the second light-transmissive insulation substrate.

Kamoi et al. discloses polarizer plates disposed respectively on the other major surfaces of the first insulation substrate, the polarizer plates having thicknesses greater than those of the insulation substrate and the second insulation substrate (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ disclose polarizer plates disposed respectively on the other major surfaces of the first light-transmissive insulation substrate, the polarizer plates having thicknesses greater than those of the first light-transmissive insulation substrate and the second light-transmissive insulation substrate since one would be motivated to reduce irregularities in color (col. 3, lines 58-60).

#### *Response to Arguments*

6. Applicant's arguments filed 7/19/05 have been fully considered but they are not persuasive.
7. In response to Applicant's argument that Kamoi does not disclose the limitation of the film having a thickness greater than the glass substrate, Examiner asserts that the claimed limitation is discloses in column 3, lines 56. Kamoi states that  $D=L\pm 30\mu m$ , where D is the thickness of the polarizing plates and L is the thickness of the substrate (col. 3, lines 49-60). Therefore, it is clearly evident that the formula includes that the thickness of the polarizing plate

Art Unit: 2871

can be 30 microns greater than the substrate. Furthermore, “In the cases where the claimed ranges ‘overlap or lie inside ranges disclosed by the prior art’ a *prima facie* case of obviousness exists” *see MPEP 2144.05*.

8. In arguing, Applicant states that the “cited portion discloses only the relative thicknesses of the polarizing plates 24, 26, and substrates 10”. However, the claimed language “wherein each of the substrates has a glass substrate and a film that is attached to an outer surface of the glass substrate and has a thickness greater than a thickness of the glass substrate,” only requires a *relative* thickness between the glass substrate and the film. Therefore, the claimed limitation is clearly met by Kamoi.

9. In arguing, Applicant states that the relative thicknesses of Kamoi’s polarizing plates 24, 26 and substrates teach away from the claimed thicknesses, citing that Kamoi states: “Accordingly, it is better for the polarizing plates 24, 26 to be almost a same thickness as that of the substrate 10, or to be slightly thinner (within 30  $\mu\text{m}$ ) than the substrates 10...” However, as clearly indicated in the quote, Kamoi also states that it is better for the polarizing plates to be **almost of the same thickness as that of the substrate**. Such an indication does not limit for the polarizing plate to be thinner than the substrate, but also allows for the polarizing plate to be thicker than the substrate while still being **almost of the same thickness of the substrate**. Therefore, Kamoi does not teach away from the claimed thickness.

10. In response to Applicant’s argument that Kamoi teaches the relationship  $D=L+\pm 30\mu\text{m}$  to reduce irregularities of the color in the PF-LCD, as opposed to reduce damage to the glass substrate caused by bending, it is noted that the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be

the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard H. Kim whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571)272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard H Kim  
Examiner  
Art Unit 2871

RHK

*Andrew Schechter*  
ANDREW SCHECHTER  
PRIMARY EXAMINER